

## isc Silicon PNP Power Transistor

## 2SA1599

## DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CE(SUS)} = -40(V)(Min.)$
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = -0.3(V)(Max.) @ I_C = -5A$
- Large Current Capability- $I_C = -10A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

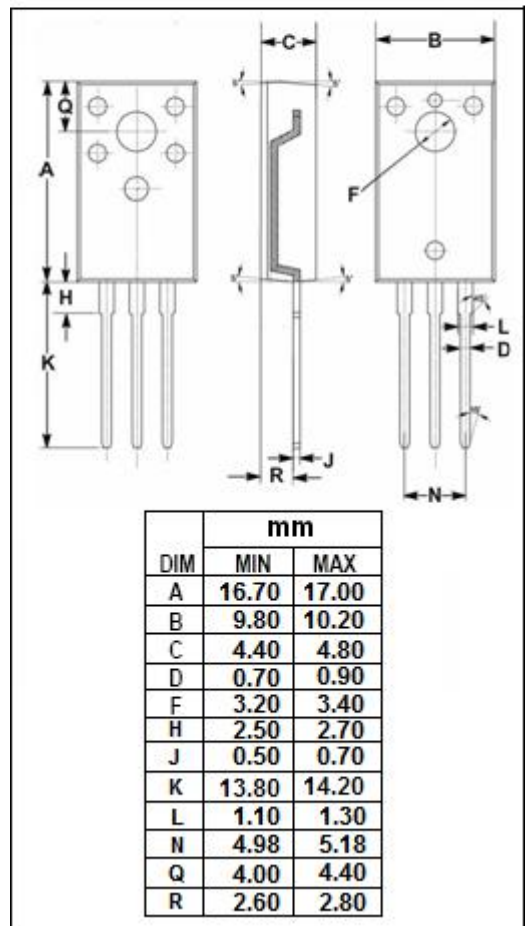
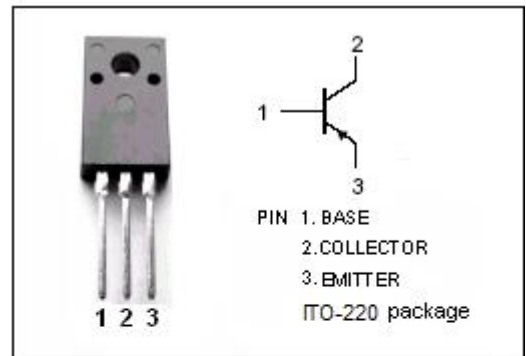
- Designed for mid-switching applications, and is ideal for use as a ramp driver.

ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ C$ )

| SYMBOL    | PARAMETER                                       | VALUE   | UNIT       |
|-----------|---|---------|------------|
| $V_{CBO}$ | Collector-Base Voltage                          | -60     | V          |
| $V_{CEO}$ | Collector-Emitter Voltage                       | -40     | V          |
| $V_{EBO}$ | Emitter-Base Voltage                            | -7      | V          |
| $I_C$     | Collector Current-Continuous                    | -10     | A          |
| $I_{CM}$  | Collector Current-Peak                          | -20     | A          |
| $I_B$     | Base Current-Continuous                         | -1.5    | A          |
| $I_{BM}$  | Base Current-Peak                               | -2      | A          |
| $P_C$     | Total Power Dissipation<br>@ $T_C = 25^\circ C$ | 25      | W          |
| $T_J$     | Junction Temperature                            | 150     | $^\circ C$ |
| $T_{stg}$ | Storage Temperature Range                       | -55~150 | $^\circ C$ |

## THERMAL CHARACTERISTICS

| SYMBOL      | PARAMETER                            | MAX | UNIT         |
|-------------|--------------------------------------|-----|--------------|
| $R_{thj-c}$ | Thermal Resistance, Junction to Case | 5   | $^\circ C/W$ |



**isc Silicon PNP Power Transistor****2SA1599****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

| SYMBOL                | PARAMETER                            | CONDITIONS                                    | MIN | TYP. | MAX  | UNIT |
|-----------------------|--------------------------------------|---|-----|------|------|------|
| V <sub>CEO(SUS)</sub> | Collector-Emitter Sustaining Voltage | I <sub>C</sub> = -10mA; I <sub>B</sub> = 0    | -40 |      |      | V    |
| V <sub>CE(sat)</sub>  | Collector-Emitter Saturation Voltage | I <sub>C</sub> = -5A; I <sub>B</sub> = -0.25A |     |      | -0.3 | V    |
| V <sub>BE(sat)</sub>  | Base-Emitter Saturation Voltage      | I <sub>C</sub> = -5A; I <sub>B</sub> = -0.25A |     |      | -1.2 | V    |
| I <sub>CBO</sub>      | Collector Cutoff Current             | V <sub>CB</sub> = -60V; I <sub>E</sub> = 0    |     |      | -100 | μ A  |
| I <sub>CEO</sub>      | Collector Cutoff Current             | V <sub>CE</sub> = -40V; I <sub>B</sub> = 0    |     |      | -100 | μ A  |
| I <sub>EBO</sub>      | Emitter Cutoff Current               | V <sub>EB</sub> = -7V; I <sub>C</sub> = 0     |     |      | -100 | μ A  |
| h <sub>FE</sub>       | DC Current Gain                      | I <sub>C</sub> = -5A; V <sub>CE</sub> = -2V   | 70  |      |      |      |

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